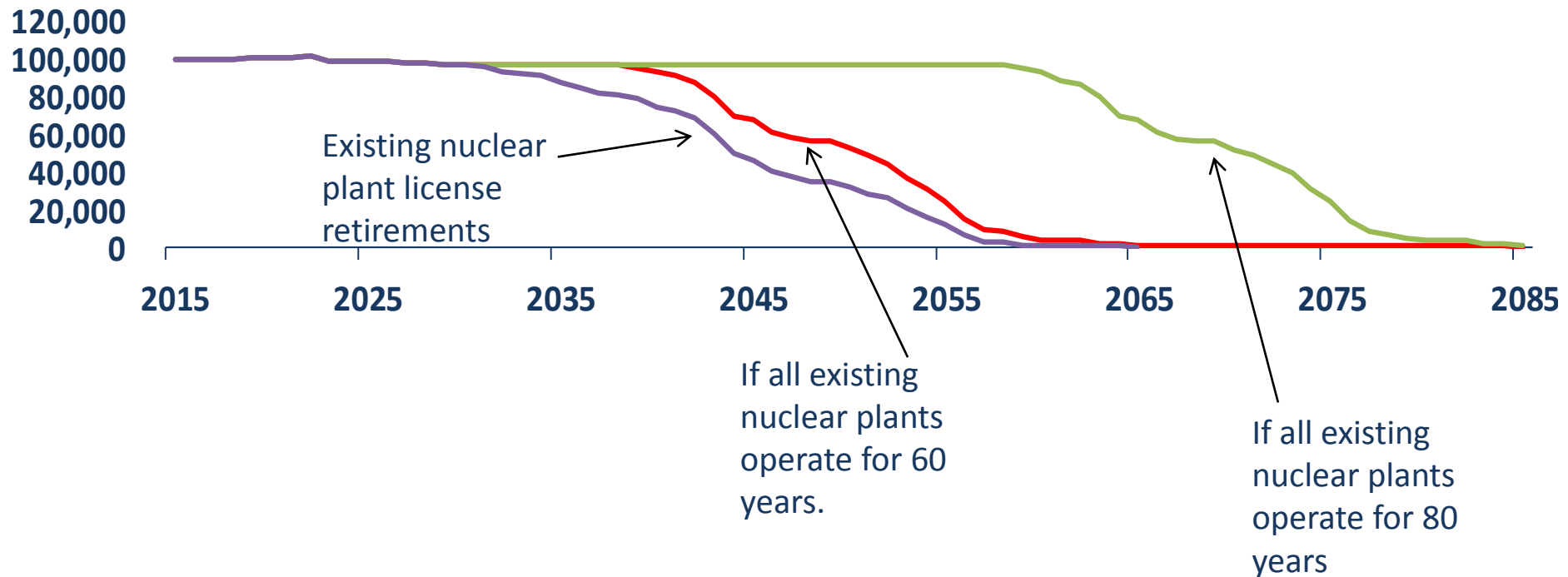


# Creating a Future for Nuclear Power in the United States

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Nuclear Energy Institute  
June 7, 2016

# Projected U.S. Nuclear Power Capacity (Megawatts)



# NEI Strategic Priorities

- Ensure continued operation of existing nuclear plants
  - second license renewal
- Continue deployment of new light water reactors (LWRs)
- Develop and deploy small modular reactors (SMRs) and advanced non-light water reactors
- Robust U.S. and global nuclear supply chain
- Responsible environmental management of legacy assets and materials
  - sustainable used fuel management program
  - cost-effective decommissioning of retired plants

THE U.S. NUCLEAR ENERGY INDUSTRY'S  
**Strategic Plan for  
Small Modular Reactor  
Development and Deployment**

**March 2016**

THE U.S. NUCLEAR ENERGY INDUSTRY'S  
**Strategic Plan for  
Advanced Non-Light Water Reactor  
Development and Commercialization**

**May 2016**

**Providing technology options  
Reducing time-to-market**



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# NEI Strategic Plan for Advanced Non-Light Water Reactors: Long-Term Vision

America's nuclear power plants are operating at world-class levels of safety and reliability and **by the 2030s are supplying an increasing amount of carbon-free energy** for electricity and industrial uses. **American industry maintains a leadership role** in the development, demonstration and operation of both light-water and non-light water nuclear technologies for energy production and **U.S. reactor designs are recognized as the most innovative available.**

# NEI Strategic Plan for Advanced Non-Light Water Reactors: Strategic Goals

1. Two or more advanced non-light water reactor designs are commercially available (ready to build) in the U.S. in the 2030-2035 timeframe.
2. Demonstrations of one or more advanced non-light water reactors occur in the U.S. by 2025.
3. A licensing framework exists to facilitate the efficient and predictable deployment of advanced technologies, provides continued international credibility to U.S. designs, and encourages continued private-sector investment.

# Advanced Reactor Designs

- Will they be able to operate for 40, 60, 80 years?
- Will they have a capacity factor comparable to existing LWRs?
- Can the construction be simplified and the cost reduced?
- Can the licensing process be simplified?

# NEI Strategic Plan for Advanced Non-Light Water Reactors: Building Blocks

1. Communicating and advocating the potential strategic benefits and the need for successful development.
2. Ensuring an efficient and predictable regulatory framework.
3. Defining generic research, design and operational requirements.
4. Broadening federal and state government support.
5. Financing design, development and deployment.
6. Developing an appropriate fuel cycle.
7. Demonstrating that advanced non-light water reactor technologies are commercially viable.



# NEI Advanced Reactor Working Group

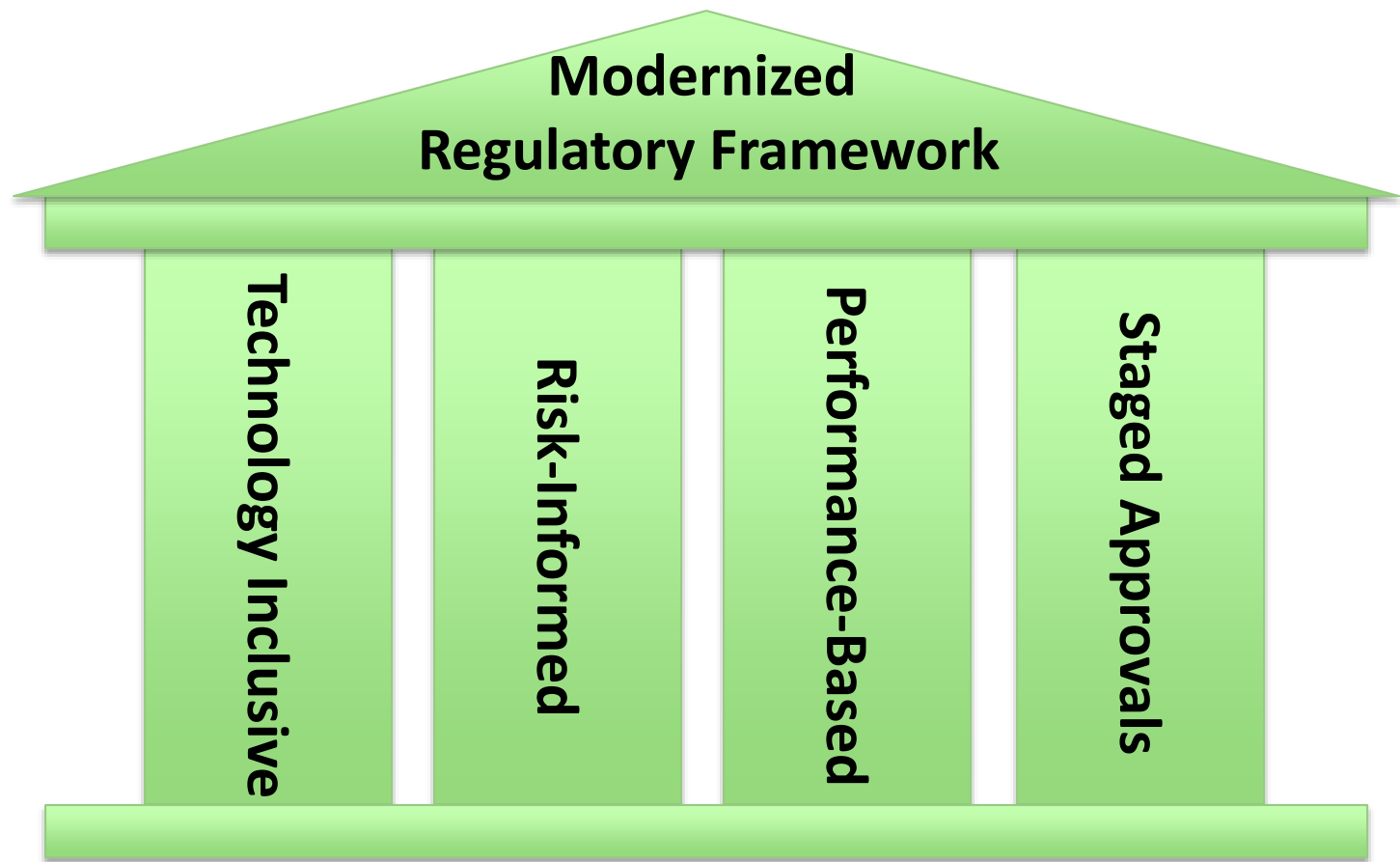
- Three task forces: Regulatory, Technology, and Legislative
- Nuclear Innovation Alliance report was solid foundation of ideas for regulatory modernization reform effort
- EPRI and NEI supporting upcoming GAIN technology focused workshops
- Interacting with Congress on legislative efforts

# Existing Regulatory Framework

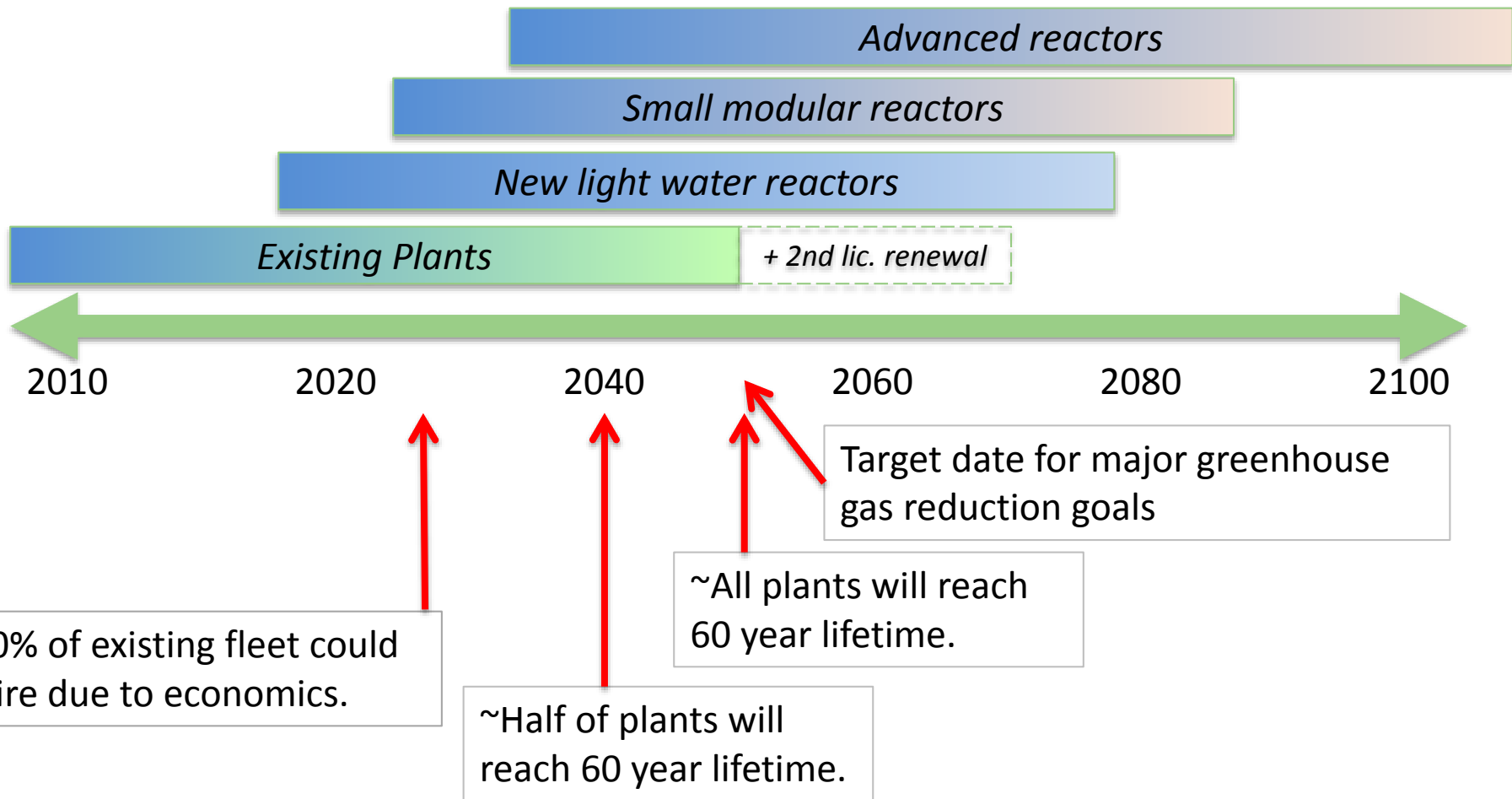
- Advanced reactors have operated in the United States
- Past licensing experience (decades-old) not indicative of future experience
- Current light-water reactor centric regulatory framework not efficient for non-light water reactors

# Regulatory Focus

- Resolution of regulatory policy issues for non-LWR advanced reactors
- Establishing a staged regulatory approach conducive to advanced reactor development
- Establishing a technology-inclusive regulatory structure for advanced reactors that is risk-informed and performance-based
- Clarifying and readying the licensing process for potential non-commercial advanced reactor demonstration projects



# Time is Critical



# Questions?

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